

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Nicola Da Dalt Examiner: Levi Gannon
Serial No.: 10/541,049 Group Art Unit: 2817
Filed: February 13, 2006 Docket No.: I435.128.101/12928US
Title: DEVICE AND METHOD FOR FREQUENCY SYNTHESIS

RESPONSE AND
EXAMINER INTERVIEW SUMMARY

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Telephonic Examiner Interview Summary

Applicant wishes to thank the Examiner for the telephonic examiner interview on May 28, 2009 between Examiner Levi Gannon and Applicant's representative attorney Patrick G. Billig. In the examiner interview, attorney Billig pointed out the distinguishing features of independent claims 17 and 29 over the Duff GB Patent No. 2002157 including the control device is configured to drive the oscillator such that the two generated output frequencies are alternated at a selected average switching frequency that is less than the at least two possible output frequencies. The frequency divider is connected to the output of the oscillator and configured to reduce the relative frequency error generated at the selected average switching frequency. The selected average switching frequency is selected by the control device to be smaller than a switching frequency to obtain desired relative frequency error without the frequency divider. Attorney Billig and Examiner Gannon also thoroughly discussed Figures 8A, 8B and 8C and the corresponding text at page 8 of the clean version of the substitute specification which explains the use of frequency dividers according to embodiments of the present invention.

As a result of the interview, Examiner Gannon agreed that he understand the invention of independent claims 17 and 19 relative to effectively exploiting the averaging effects of the frequency divider to reduce the relative frequency error generated at the selected average frequency and that the selected average switching frequency is specifically selected to be smaller (i.e., slower) than a switching frequency necessary to obtain a desired relative frequency error without the frequency divider. Attorney Billig pointed out that slower switching frequencies are desirable as slower switching frequencies generally are easier to handle and control and can be

Response

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realized with less expensive and/or more precise circuitry. Attorney Billig further pointed out that without recognizing the time averaging properties of a frequency divider, a person skilled in the art would select a considerably higher switching frequency than can be used with the invention defined in independent claims 17 and 29 which specifically exploits the averaging effects of the frequency divider.

Even though Examiner Gannon now seems to fully understand this aspect of the invention, Examiner Gannon stated that the Duff GB Patent discloses frequency divider 11k at the output of the oscillator as illustrated in Figure 2. The Examiner stated that the frequency divider 11k of the Duff Patent would inherently provide averaging effects. Examiner Gannon further indicated that although not specifically disclosed in the Duff GB Patent it was not a patentable distinction to select the average switching frequency to be smaller than a switching frequency necessary to obtain a desired relative frequency error without the frequency divider. Examiner Gannon, however, did indicate that if Applicant provided the above further arguments in this written response he would present the arguments to at least two Primary or Supervisor Examiners to get further opinions whether his position was valid.

In summary, Attorney Billig argued that independent claims 17 and 29 define the inventive distinguishing features of exploiting a frequency divider to reduce the relative frequency error to thereby be able to select a reduced switching frequency, and that the Duff GB Patent simply does not teach or suggest a control device configured to select the average switching frequency to be smaller than a switching frequency necessary to obtain a desired relative frequency error without the frequency divider. Examiner Gannon indicated that the language in the claims clearly defines these features of independent claims 17 and 29, but Examiner Gannon's position is that these distinctions over the Duff Patent are not patentable distinctions.